REMARKS

Claims 15-42 are pending in this application. By this Amendment, claims 15-30, 34, 41 and 42 are amended. No new matter is added. Reconsideration in view of the foregoing amendments and the following remarks is respectfully requested.

The Office Action rejects claims 15, 16, 18-28 under 35 U.S.C. §101. These claims are amended to obviate the rejection. As such, withdrawal of the rejection is respectfully requested.

The Office Action rejects claims 15-18, 20-23, 26, 29-32, 34-37 and 40 under 35 U.S.C. §103(a) over U.S. Patent No, 5,877,777 to Colwell, in view of U.S. Patent No. 5,731,819 to Gagne et al. (Gagne), in view of U.S. Patent No. 6,417,854 to Isowaki et al. (Isowaki), and further in view of U.S. Patent No. 5,150,899 to Kitaue et al. (Kitaue). This rejection is respectfully traversed.

Claim 15 recites, *inter alia*, means which computes at least one distortion point for specifying a shape of the primitive surface that is distorted by an impact, the at least one distortion point corresponding to the impact point, and point-to-be-moved determination means which determines at least one of surface-specifying points determined by a distance from the impact point to be moved to the computed distortion point, after the object has been subjected to an initial impact, but no subsequent impacts.

As described in the specification at, for example, page 23, line 6-page 24, line 25 and as shown in Figs. 7A, 7B and 8, when an impact is made, the system calculates the point A1 (impact point) and the point B1 (distortion point). Then, the system extracts the surface-specifying point C1 that is closest to the impact point A1, from the group of surface-specifying points distributed over the object. Then, the surface specifying point C1, which is located at a distance (e.g., closest distance) from the impact point, is moved to the distortion point B1 of the impact point A1. As discussed in the specification at, for example, page 4,

line 21-page 5, line 1, this allows realistic distortions of the object at the impact position with a lower computational load.

The Office Action admits that Colwell does not disclose this feature but alleges that Gagne teaches this feature at col. 6, lines 23-28.

Gagne teaches that the QSTRETCH module generates a deformed object by applying the motion vector to an imaginary point called the center of the object, which can be moved relative to the control vertices, depending upon the nature of the object. As discussed at col. 6, lines 33-40 of Gagne, by changing the position of the center of the object, the effect resulting from the application of the QSTRETCH module can be made to conform to the observer's experience, and the degree to which an object is deformed by the QSTRETCH module can be set by the user to appear realistic, or alternatively, can be set to a more extreme level suitable for cartoon animations. However, because Gagne deforms the object based on the motion vector using the center of the object, the computational load to render the image based on such a deformation is expected to be high.

Therefore, Gagne teaches to deform the object by the motion vector associated with the center of the object. Gagne does not discuss in detail how each of the vertices are controlled to create the deformed shape of the object. Therefore, Gagne does not teach or suggest means which computes at least one distortion point for specifying a shape of the primitive surface that is distorted by an impact, the at least one distortion point corresponding to the impact point; and point-to-be-moved determination means which determines at least one of surface-specifying points determined by a distance from the impact point to be moved to the computed distortion point, after the object has been subjected to an initial impact, but no subsequent impacts, as recited in claim 15. Moreover, Gagne does not have the above-described advantage of lower computational load.

Isowaki, similar to Gagne, does not specifically teach or suggest how each vertex is controlled to generate an image. Kitaue only determines a hit and controls the character of the game based on the determined hit. Therefore, Isowaki and Kitaue do not overcome this deficiency of Gagne.

Moreover, the Office Action's alleged motivation for combining these references is that "it would make the reaction and appearance of one or more objects after being hit more realistic." Applicants respectfully submit that this vague, unclear motivation is not a proper motivation for obviousness because none of the references discusses any advantages over the other references. The Office Action cites this passage from the primary reference, Colwell. However, such an advantage relates to his own invention. Therefore, one of ordinary skill in the art would not have considered modifying Colwell because Colwell provides a "more realistic" way for rendering an object as suggested by the Office Action. There is no basis for combining Colwell with other applied references, and the Office Action's alleged motivation can only be based on the hindsight knowledge gained from Applicants' disclosure.

As such, Applicants respectfully submit that claim 15 is patentably distinct from the applied references. Independent claims 20, 29 and 34 recite features similar to claim 15. Accordingly, these claims are also patentably distinct from the applied references.

Dependent claims 16-18, 21-23, 26, 30-32, 35-37 and 40 are allowable at least for their dependence on the respective allowable base claims, as well as for the additional features they recite.

At least for these reasons, Applicants respectfully request withdrawal of the rejection.

The Office Action rejects claims 19 and 33 under 35 U.S.C. §103(a) over Colwell in view of Gagne and Kitaue and further in view of U.S. Patent NO. 6,517,861 B1 to Deering et al. (Deering). This rejection is respectfully traversed.

First, claims 15 and 29, which are the base claims of claims 19 and 33, are rejected over Colwell, Gagne, Isowaki and Kitaue. Isowaki is not applied in this rejection. In addition, as discussed above, Colwell, Gagne and Kitaue do not teach or suggest the features of claims 15 and 29. Deering does not teach the subject matter of Isowaki or overcome these deficiencies of Colwell, Gagne and Kitaue. Therefore, claims 19 and 33 are allowable at least for their dependence on allowable base claims, as well as for the additional features they recite.

The Office Action rejects claims 24, 25, 27, 38, 39 and 41 under 35 U.S.C. §103(a) over Colwell in view of Gagne and Kitaue and further in view of Isowaki. This rejection is respectfully traversed.

Claims 24, 25, 27, 38, 39 and 41 are allowable at least for their dependence on allowable base claims, as well as for the additional features they recite. As such, withdrawal of the rejection is respectfully requested.

The Office Action rejects claims 28 and 42 under 35 U.S.C. §103(a) over Isowaki in view of Colwell and further in view of Kitaue. This rejection is respectfully traversed.

Claim 28 recites, *inter alia*, point-to-be-moved determination means that operates when an impact is imparted to the object, for determining at least one vertex determined by a distance from an impact position to be moved to at least one distortion point, the at least one distortion point corresponding to the imparted impact position at which an impact is imparted to the object hit in sequence in real-time, and means which causes the vertex to move to the at least one distortion point, based on the magnitude and direction of the impact imparted to the object.

The Office Action alleges that Isowaki teaches these features. However, as described at col. 14, lines 45-52, Isowaki only determines the direction of velocity and the size of velocity at impact and performs interpolation processing on the polygon data at the impact

location of the car based on the data on the impact velocity direction and impact velocity. Isowaki does not specifically teach or suggest determining at least one vertex determined by a distance from an impact position to be moved to at least one distortion point corresponding to the imparted impact position at which an impact is imparted to the object hit in sequence in real-time and causing the vertex to move to the distortion point. Colwell and Kitaue do not overcome Isowaki's deficiencies.

Accordingly, Applicants respectfully submit that claim 28 is patentably distinct from the applied references.

Method claim 42 recites determining at least one vertex determined by a distance from an impact position to be moved to at least one distortion point, the at least one distortion point corresponding to the imparted impact position at which an impact is imparted to the object hit in sequence in real-time, and moving the vertex to the at least one distortion point, based on the magnitude and direction of the impact imparted to the object. Similar to claim 28, none of the applied references teaches or suggests these features. Accordingly, claim 42 is patentably distinct from the applied references.

At least for these reasons, Applicants respectfully request withdrawal of the rejection.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 15-42 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

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